Appl. No. 10/565,331
Reply to final Office Action dated January 21, 2009

PATENT

Amendment to the Claims

Listing of Claims:

1. (Previously presented) A compound having the formula:

$$Ab—G–L—T$$

wherein

Ab is an antibody;

G is an intact glycosyl linking group covalently joining Ab to L;

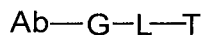L is a bond or a spacer moiety covalently joining G to T; and

T is a toxin, wherein

said spacer moiety is a member selected from substituted or unsubstituted alkyl, substituted or unsubstituted heteroalkyl and substituted or unsubstituted aryl moieties.

2. (Canceled)

3. (Previously presented) The compound according to claim 1, wherein said spacer moiety comprises a poly(ethylene glycol) moiety.
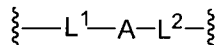
4. (Previously presented) A compound having the formula:

$$Ab—G–L—T$$

wherein

Ab is an antibody;

G is an intact glycosyl linking group covalently joining Ab to L;

L is a spacer moiety covalently joining G to T; and

T is a toxin, wherein L has the formula:

$$\{—L^1—A–L^2–\}$$

wherein

L^1 is a bond or a linker moiety covalently joining G to A;

A is an amplifier moiety; and

L^2 is a bond or a spacer moiety covalently adjoining A to T.

5. (Original) The compound according to claim 4, wherein said amplifier moiety is a polyamine moiety.

1   6.   (Original) The compound according to claim 5, wherein said polyamine moiety is a dendrimer.

1   7.   (Previously presented) The compound according to claim 4, having the formula:
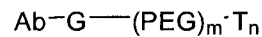
$$Ab\text{–}G\text{——}(PEG)_m\text{·}T_n$$

2

3   wherein

4   PEG is a straight- or branched-chain poly(ethylene glycol);

5   m is an integer from 1 to 6; and

6   n is an integer from 1 to 1,000.

1   8.   (Previously presented) The compound according to claim 4, having the formula:

$$Ab\text{–}G\text{–}L^1\text{–}(dendrimer)_m\text{–}(L^2\text{-}T)_n$$

2

3   wherein

4   m is an integer from 1 to 6; and

5   n is an integer from 1 to 1,000.

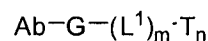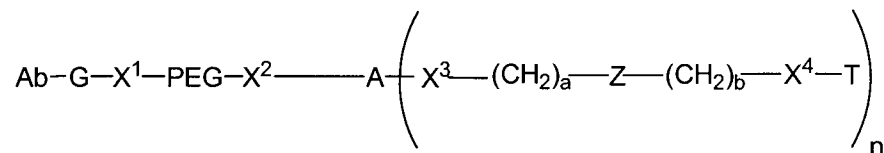1   9.   (Previously presented) The compound according to claim 4, having the formula:

$$Ab\text{–}G\text{–}(L^1)_m\text{·}T_n$$

2

3   wherein

4   m is an integer from 1 to 6; and

5   n is an integer from 1 to 1,000.

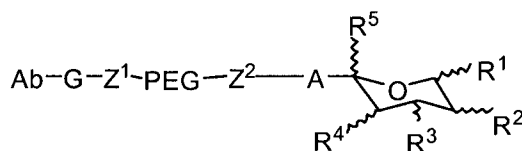1   10.   (Currently amended) A compound having the formula:

$$Ab\text{-}G\text{—}X^1\text{—}PEG\text{—}X^2\text{———}A\left(X^3\text{—}(CH_2)_a\text{—}Z\text{—}(CH_2)_b\text{—}X^4\text{—}T\right)_n$$

2

3   wherein

4   X^1, X^2, X^3, and X^4 are linking groups and are members selected from the group consisting

5   of O, S, NH, $(CH_2)_q$-NH, NH-$(CH_2)_q$, NH-C(O)-O, O-C(O)-NH,

6                $(CH_2)_q$-NH-C(O)-O, O-C(O)-NH-$(CH_2)_q$, C(O)-O, O-C(O), $(CH_2)_q$-NH-C(O),

7   C(O)-NH-$(CH_2)_q$, NH-C(S), and C(S)-NH

8   and wherein

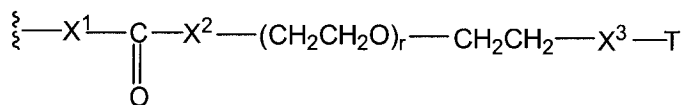DB2/21164595.1

9   Ab is an antibody;

10   G is an intact glycosyl linking group covalently joining Ab to $\underline{X^1}$ L;

11   T is a toxin;

12   A is an amplifier moiety;

13   Z is a bond cleaved by a metabolic/physiological process;

14   n is an integer from 1 to 1,000;

15   a is an integer from 1 to 10;

16   b is an integer from 1 to 10; and

17   q is and integer from 0 to 20.

1   11.   (Currently amended) A compound having the formula:

$$Ab-G-Z^1-PEG-Z^2-A$$

2

3   wherein

4   at least one of R^1, R^2, R^3, R^4, R^5, is :

$$-X^1-\underset{\underset{O}{\|}}{C}-X^2-(CH_2CH_2O)_r-CH_2CH_2-X^3-T$$

5

6   wherein

7   Ab is an antibody;

8   G is an intact glycosyl linking group covalently joining Ab to $\underline{Z^1}$ L;

9   T is a toxin;

10   r is an integer from 1 to 2,500;

11   A is an amplifier moiety;

12   Z^1 is selected from the group consisting of O, S, and NH;

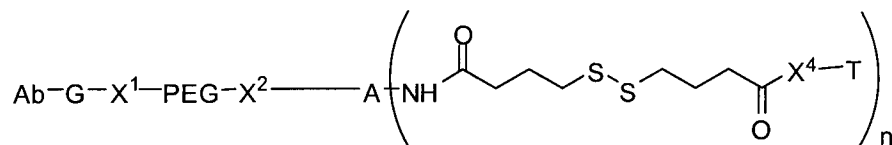13 Z^2 is selected from the group consisting of NH, and NH-$(CH_2)_q$;

14   and

15   X^1, X^2 and X^3 are linking groups and are members selected from the group consisting of

16   O, S, NH, $(CH_2)_q$-NH, NH-$(CH_2)_q$, NH-C(O)-O, O-C(O)-NH,

17            $(CH_2)_q$-NH-C(O)-O, O-C(O)-NH-$(CH_2)_q$, C(O)-O, O-C(O), $(CH_2)_q$-NH-C(O),

18   C(O)-NH-$(CH_2)_q$, NH-C(S), and C(S)-NH

19   wherein

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20   n is an integer from 1 to 1,000; and

21   q is an integer from 0 to 20.

1   12.   (Currently amended) A compound having the formula:

2

3   wherein

4   X^1, X^2 and X^4 are linking groups and are members selected from the group consisting of

5   O, S, NH, $(CH_2)_q$-NH, NH-$(CH_2)_q$, NH-C(O)-O, O-C(O)-NH,

6              $(CH_2)_q$-NH-C(O)-O, O-C(O)-NH-$(CH_2)_q$, C(O)-O, O-C(O), $(CH_2)_q$-NH-C(O),

7   C(O)-NH-$(CH_2)_q$, NH-C(S), and C(S)-NH

8   wherein

9   Ab is an antibody;

10   G is an intact glycosyl linking group covalently joining Ab to $\underline{X^1}$ ~~L~~;

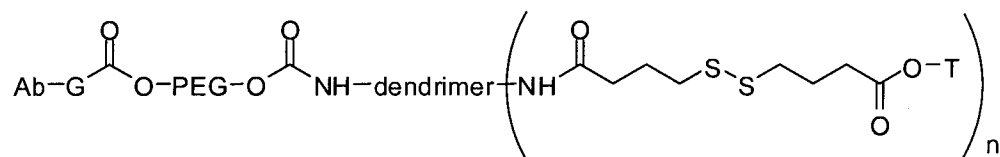11   T is a toxin;

12   A is an amplifier moiety;

13   n is an integer from 1 to 1,000; and

14   q is an integer from 0 to 20.
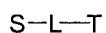

1   13.   (Previously presented) The compound according to claim 12, having the formula:

2

3   wherein

4   n is an integer from 1 to 1,000.

1   14.   (Withdrawn) A compound having the formula:

2   S—L—T

3   wherein

4   S is a nucleotide sugar

5   L is a bond or a spacer moiety covalently joining S to T; and

6   T is a toxin moiety.

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1   15.   (Withdrawn) The compound according to claim 14, wherein said spacer moiety is a member

2   selected from substituted or unsubstituted alkyl, substituted or unsubstituted heteroalkyl and substituted or

3   unsubstituted aryl moieties.

1   16.   (Withdrawn) The compound according to claim 15, wherein said spacer moiety comprises a

2   poly(ethylene glycol) moiety.

1   17.   (Withdrawn) The compound according to claim 14, wherein L has the formula:

2   $$\{\!-\!L^1\!-\!A\!-\!L^2\!-\!\}$$
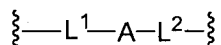
3   wherein

4   L^1 is a bond or a spacer moiety covalently joining S to A;
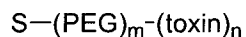
5   A is an amplifier moiety; and

6   L^2 is a bond or a spacer moiety covalently joining A to T.

1   18.   (Withdrawn) The compound according to claim 17, wherein said amplifier moiety is a polyamine

2   moiety.

1   19.   (Withdrawn) The compound according to claim 18, wherein said polyamine moiety is a

2   dendrimer.

1   20.   (Withdrawn) The compound according to claim 17, having the formula:

2   $$S\!-\!(PEG)_m\text{-}(toxin)_n$$

3   wherein

4   PEG is a straight- or branched-chain poly(ethylene glycol);

5   m is an integer from 1 to 6; and

6   n is an integer from 1 to 1,000.

1   21.   (Withdrawn) The compound according to claim 17, having the formula:

2   $$S\!-\!L^1\text{-}(dendrimer)_m\text{-}(L^2\text{-}toxin)_n$$
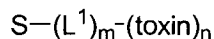
3   wherein

4   m is an integer from 1 to 6; and

5   n is an integer from 1 to 1,000.

1   22.   (Withdrawn) The compound according to claim 17, having the formula:

2   $$S\!-\!(L^1)_m\text{-}(toxin)_n$$

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3   wherein

4   m is an integer from 1 to 6; and

5   n is an integer from 1 to 1,000.

1   23.   (Withdrawn) The compound according to claim 22, having the formula:
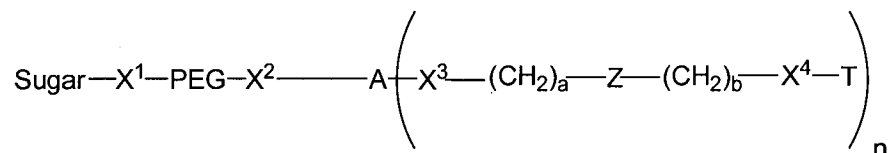
$$\text{Sugar}-X^1-\text{PEG}-X^2\text{------}A\left(-X^3-(CH_2)_a-Z-(CH_2)_b-X^4-T\right)_n$$

2

3   wherein

4   X^1, X^2 and X^3 are linking groups and are members selected from the group consisting of

5   O, S, $NH(CH_2)_q$-NH, NH-$(CH_2)_q$, NH-C(O)-O, O-C(O)-NH, $(CH_2)_q$-NH-C(O)-O,

6   O-C(O)-NH-$(CH_2)_q$, C(O)-O, O-C(O), $(CH_2)_q$-NH-C(O), C(O)-NH-$(CH_2)_q$,

7   NH-C(S), and C(S)-NH

8   and wherein

9   A is an amplifier moiety;

10   Z is a bond cleaved by a metabolic/physiological process;
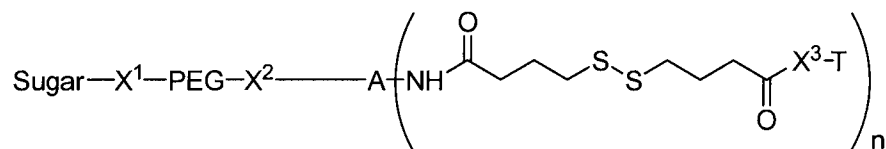
11   n is an integer from 1 to 1,000;

12   a is an integer from 1 to 10;

13   b is an integer from 1 to 10; and

14   q is and integer from 0 to 20.

1   24.   (Withdrawn) The compound according to claim 14, having the formula:

$$\text{Sugar}-X^1-\text{PEG}-X^2\text{------}A\left(NH\overset{O}{\overset{\|}{C}}\diagdown\diagup S_\diagdown S\diagup\diagdown\overset{\diagup}{\underset{\underset{O}{\|}}{C}}X^3\text{-}T\right)_n$$

2

3   wherein

4   X^1, X^2 and X^3 are linking groups and are members selected from the group consisting of

5   O, S, $NH(CH_2)_q$-NH, NH-$(CH_2)_q$, NH-C(O)-O, O-C(O)-NH, $(CH_2)_q$-NH-C(O)-O,

6   O-C(O)-NH-$(CH_2)_q$, C(O)-O, O-C(O), $(CH_2)_q$-NH-C(O), C(O)-NH-$(CH_2)_q$,

7   NH-C(S), and C(S)-NH

8   wherein

9   q is an integer from 0 to 20.

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1   25.   (Withdrawn) The compound according to claim 24, having the formula:

2